(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

10/540409

(43) International Publication Date
15 July 2004 (15.07.2004)

PCT

(10) International Publication Number
WO 2004/059467 A2

(51) International Patent Classification[7]: G06F 9/38, 13/40

(21) International Application Number:
PCT/IB2003/005584

(22) International Filing Date:
28 November 2003 (28.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02080588.3 30 December 2002 (30.12.2002) EP

(71) Applicant *(for all designated States except US)*: **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **PIRES DOS REIS MOREIRA, Orlando, M.** [PT/NL]; c/o Prof . Holstlaan 6, NL-5656 AA Eindhoven (NL). **TERECHKO, Andrei** [BY/NL]; c/o Prof . Holstlaan 6, NL-5656 AA Eindhoven (NL). **VAN ACHT, Victor, M., G.** [NL/NL]; c/o Prof . Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agent: **DUIJVESTIJN, Adrianus, J.**; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

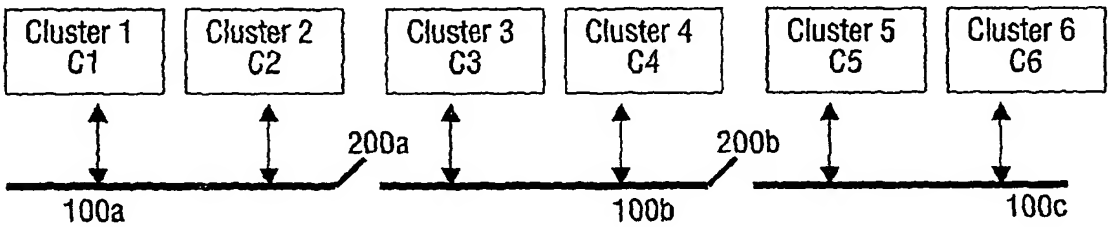
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

Published:

— *without international search report and to be republished upon receipt of that report*

[Continued on next page]

(54) Title: CLUSTERED ILP PROCESSOR AND A METHOD FOR ACCESSING A BUS IN A CLUSTERED ILP PROCESSOR



(57) Abstract: The basic idea of the invention is to add switches along a bus, in order divide the bus into smaller independent segments by opening/closing said switches. A clustered Instruction Level Parallelism processor comprises a plurality of clusters (C1 - C6) each comprising at least one register file (RF) and at least one functional unit (FU), a bus means (100) for connecting said clusters (C1 - C6), wherein said bus (100) comprises a plurality of bus segments (100a, 100b, 100c), and switching means (200), which is arranged between adjacent bus segments (100a, 100b, 100c). Said switching means (200) are used for connecting or disconnecting adjacent bus segments (100a, 100b, 100c). Furthermore, a method for accessing a bus (100) in a clustered Instruction Level Parallelism processor is shown. Said bus (100) comprises at least one switching means (200) along said bus (100). A cluster can either perform a sending operation based on a source register and transfer word or a receiving operation based on a designation source register and a transfer word. Said switching means are then opened/closed according to said transfer word.

WO 2004/059467 A2